

Age-Earnings in Wrongful Death and Personal Injury Cases for Military Personnel

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The relevance of the age-earning profile for wrongful death and personal injury cases is of prime importance to the practicing forensic economist. As noted by Jones(1990), the profile could direct the selection of a discount rate in these cases. In "Choosing a Discount Rate for Future Losses in Wrongful Death and Injury Cases," Jones argues that "to the extent that real growth has occurred since 1969, that fact is captured in the humped age-earnings curve." Thus, when the conventional life-cycle of earnings is applied along with a discount rate that includes a "significant amount of productivity-growth over and above inflation," discounted future losses are overstated.

Jones' age-earnings curve is based on a broad-based age-earning curve using cohort data for males, 1969-1987. But, data restrictions undermine his arguments as to the ability of the "humped" profile to reflect the real growth in wages. To better address these dilemmas a less-aggregated (more-individuated) set of earnings is used herein to explore the dynamics of real wage growth. Specifically, longevity basic-pay rates for active military personnel from 1963 to 1992 are examined. A consistent historical series by rank exists only from 1963; nonetheless, this should provide sufficient data for a 30-year career. Military pay rates are also chosen to incorporate a major structural change in this labor market, i.e., the transformation from a drafted armed force to a volunteer one. With such a conversion, the "hump" of the age-earning curve should be conspicuous.

Jones' Graphic

The basis of Jones' demonstration is the comparison of 1969 and 1987 price-adjusted earnings for males by age. The age brackets are notably wide and may have misrepresented the real growth in these general wages; but, his supplementary sources bolstered the observation that real earnings in 1987 were no higher than those for 1969.

A similar finding is noted with a comparison of real earnings by military rank. Basic monthly pay is converted to constant 1982-1984 dollars with the overall Consumer Price Index.¹ As indicated in Figures 1 and 2, real earnings for enlistees and officers in 1969, for the most part, exceeded those for 1987 and 1992. However, notable exceptions exist where real pay was actually higher in later years than in 1969 for those at ranks no higher than E-3. This, in all likelihood, is evidence of attempts to attract and retain recruits after the conversion to a volunteer army.

While 1987 and 1992 real wages are generally below those in 1969, the 1992 age-earning curve is inverted across the enlisted grades (Figure 1). For officers, the classic profile is somewhat more evident. But, a drop in real pay across the grades is not detectable over the period from 1969 to 1992. Rather, a plateau is noted at the higher ranks. Thus, a

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¹ Basic pay was also adjusted by CPI less food, CPI less food and energy, CPI less medical services, and other such special indices. The price-neutralized pay was similar in all cases.

more typical life-cycle income path emerges for officers more so than for enlistees.

Enlistee Career Paths

Figure 1 . Basic Monthly Pay for enlistee grades

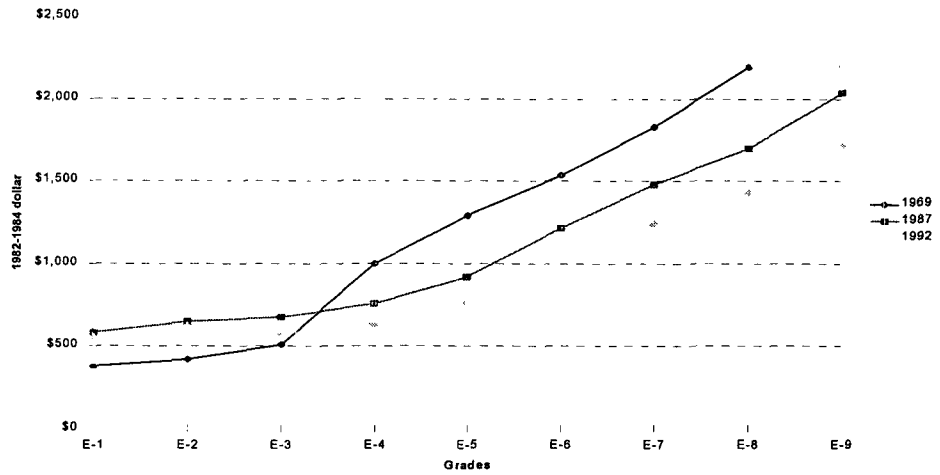
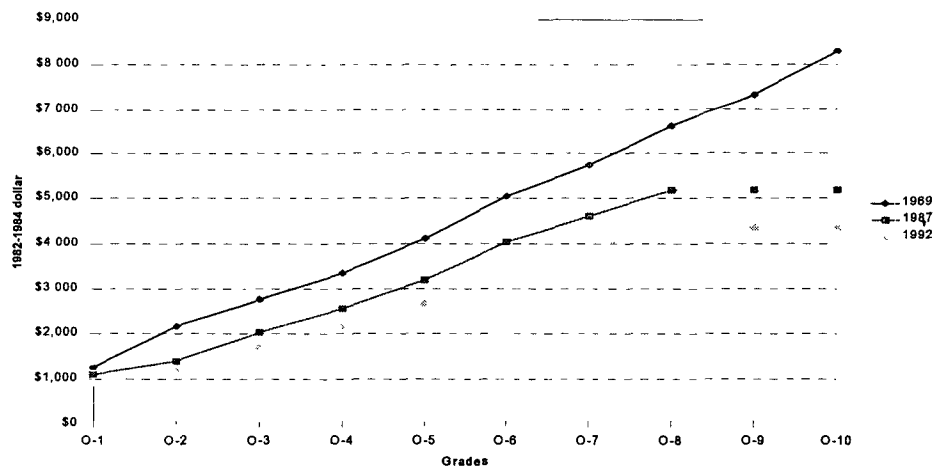


Figure 2 . Basic Monthly Pay for officer grades

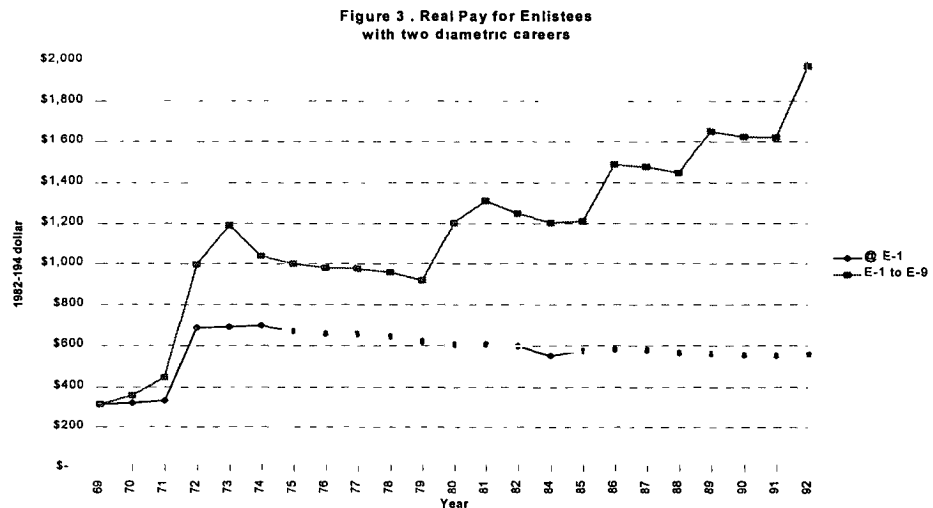


As with typical income distributions by age, the contrast of real military earnings by grades is an inadequate specification for age brackets; that is, the grade levels do not sufficiently differentiate the ages at which income is earned. However, realistic age-earning careers can be generated from the longevity pay steps of typical military members from 1969 to 1992. In place of pay by grade, years of service are used to construct profiles for enlistees with varying paces of advancement.

Two diametric careers for an enlistee are depicted in Figure 3. One path assumes

that the person is "productive" and proceeds through the promotion grades in a typical fashion. A second course is developed on the assumption that the person stays in the same rank for the entire period. If the "non-productive" recruit were to have remained an E-1, he or she would have earned the income of the lesser series. Having advanced typically through the ranks to E-9, the "aspiring" recruit would have received monthly amounts similar to those of the steeper progression. Both sequences have the "humped" characteristic; but, in each instance, real pay in 1969 is less than subsequent pay levels! However, if the starting date were shifted into the post-conversion period, the "non-productive" case points to constant decline in real pay and the "productive" example exhibits a slightly concave growth pattern - the exact opposite of the standard profile! Thus, with 1973 as the start of a career for a determined person, it is not clear that real wages would trend toward levels for previous years of service.

For an enlistee on an intermediate pace, the age-earning profile would exhibit a pattern somewhere between those depicted in Figure 3. Accessions from E-1 to E-3, E-1 to E-4, E-1 to E-5, E-1 to E-6, and E-1 to E-7 are portrayed in Figure 4. The bends in the curves, as anticipated, are much sharper for those who would not advance to the higher grades; but, again, no turn would be observed if the analysis were begun with a post-conversion year for three of the five cases.



The above depictions have been generated from simulations for twenty-year careers. A thirty-year "hitch" from 1963 to 1992 is depicted in Figure 5 for the two opposite careers. With 1963 as the starting date, the series for the ambitious enlistee reasonably tracks the predicted wage pattern predicted by the humped age-earning model.

Figure 4 Real Pay for Enlistees with intermediate accessions

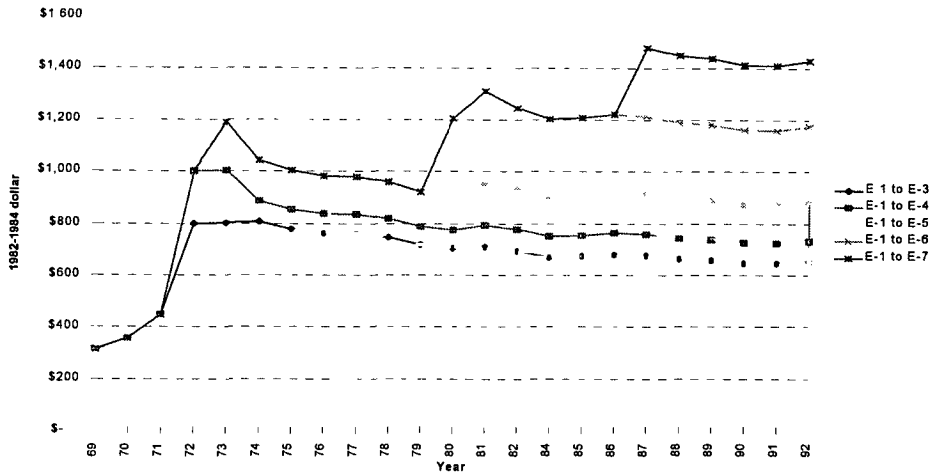
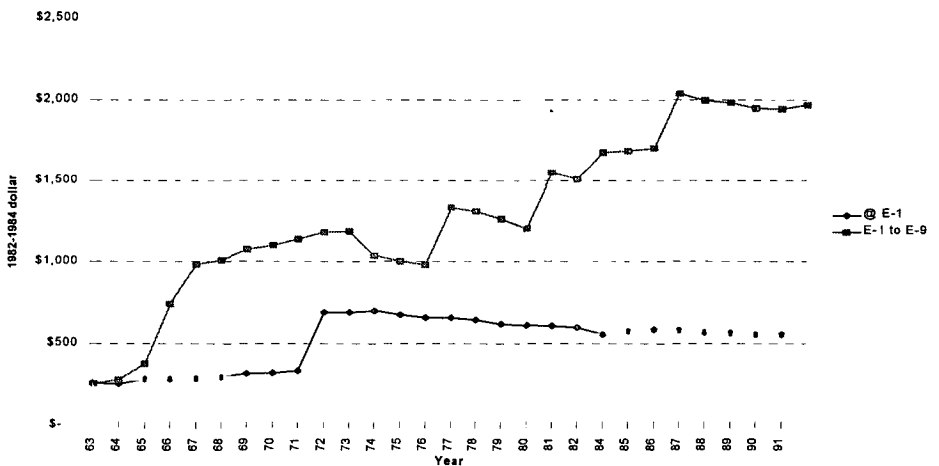


Figure 5 Real Pay for Enlistees for diametric careers, 1963-1992



When retirement income is appended to wage series for either a twenty-year or a thirty-year track, receipts would naturally taper since the retiree would not receive full pay. If the retiree did not supplement his income by taking a similar paying job, the use of the humped profile would be warranted. However, if the military retiree pursued another occupation, its application would be suspect until that person genuinely retired.

Summary

When evaluating income growth patterns for military personnel, the forensic economist must recognize that the conventional age-earning curve cannot be universally

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applied; and, thus, the choice of a discount rate is data-dependent. The career path of the individual must be considered by grade and date of initiation. Income progressions for officers and some enlistees do appear to conform to the conventional life-cycle model. If this were the case, it would be appropriate to use the age-earning profile with a higher discount rate to avoid overestimation of losses. However, if an individual began a career in the post-conversion era, the classic age-earning profile does not hold. Therefore, the use of a base income along with discount rate which reflects productivity growth would be proper.

References

- Bryan, William R. and Charles M. Linke, The Estimation of the Age/Earnings Profiles in Wrongful Death and Injury Cases: Comment, *Journal of Risk and Insurance*, 1988, 55:168-73.
- Freeman, Richard R., The Effect of Demographic Factors on Age-Earning Profiles, *The Journal of Human Resources*, 1980, 14:303-18.
- Honoch, Giora and Marjorie Honig, "True" Age Profiles of Earnings: Adjusting for Censoring and for Period and Cohort Effects, *The Review of Economics and Statistics*, 67:383-94.
- Jones, David D., Choosing a Discount Rate for Future Losses in Wrongful Death and Injury Cases, *Journal of Risk and Insurance*, 1990, 57:137-140.
- Lane, Julia and Dennis Glennon, The Estimation of the Age/Earnings Profiles in Wrongful Death and Injury Cases, *Journal of Risk and Insurance*, 1985, 52:686-95.
- Lane, Julia and Dennis Glennon, The Estimation of the Age/Earnings Profiles in Wrongful Death and Injury Cases: Author's Reply, *Journal of Risk and Insurance*, 1988, 55: 174-79.
- U. S. Department of Commerce, various years, Bureau of the Census, *Statistical Abstract of the United States*, (Washington, D.C.: U.S. Government Printing Office).
- U. S. House of Representatives, Committee on Armed Forces, H. A. S. C. No. 94-5, "Pay and Allowances of the Uniformed Services," 1975, (Washington, D. C.: U. S. Government Printing Office).